C)Semester wise syllabus:

I)Isemester

- SEMETSER:- I
- COURSE NO.:- AL-111
- COURSE TITLE:- MATHEMATICS
- CREDITS:- 2(2+0)

➢ THEORY

NO. OF UNITS	TOPICS	NO. OF LECTURES
1	*Determinants: Definition of second order and third order determinants, minors and cofactors of a determinant, expansion of determinant, elementary properties of determinant (statement only).*	*2*
2	*Logarithm: Introduction and definition, laws of logarithm with proof, change of base, numerical problems.*	*2*
3	*Function: Definition of function, types of functions viz, algebraic, logarithmic, trigonometric, inverse and exponential (illustration only)*	*2*
4	*Limits: Definition of limits, theorems and standard limits (statement only), numerical problems.*	*3*
5	*Differentiation: Definition of derivative, derivatives of constant functions, power functions and trigonometric functions, derivatives of logx, ax, ex (without proof), rules of differentiation (statement only), maxima and minima.*	*5*
6	*Ordinary differential equations of first order and second order: Definition, order and degree, formation of differential equation, general and particular solution of differential equation, solution of differential equation by the method of variable separable, exact differential equation, linear differential equation of the type dy/dx + Py = Q., where P and Q are functions of X, linear differential equation with constant coefficient.*	*8*
7	*Integral calculus: Integration as the inverse of differentiation, definition of integral of a function, indefinite integral or antiderivatives, integral of some standard functions (without proof), rules of integration (statement only), definition of definite integral as the limit of sum illustrated with the help of*	*4*

	simple examples.	
8	*Linear programming problems involving two variables only: Introduction of concepts, mathematical formulation of linear programming problems, graphical method of solution for problems in two variables.*	*6*
	TOTAL	**32**

Reference Books:

- *Higher Engineering Mathematics* *B. S. Grewal*
- *Higher Algebra* *Hall and Knight*
- *Differential Calculus* *Shanti Narayan*
- *Integral Calculus* *Shanti Narayan*